REMARKS

Claim 2 has been amended to correct the omission kindly noted by the Office in rejecting claim 2 under 35 U.S.C. § 112, paragraph 2. In presenting the claims, the definition of X, which occurs in all of the formulas, was inadvertently omitted. This has now been corrected. Support for the definition wherein each X is S, Se or Te is found on page 5 in paragraph 12. Applicant appreciates attention being drawn to this inadvertent omission so that it can be corrected.

Claim 2 has also been amended to delete structures (5)-(6), (9)-(11), (13) and (15)-(20) as agreed at the interview. The cancellation of these structures is as of a result of an election of species, and applicant, as discussed, will be entitled to file a continuation application along with a terminal disclaimer containing a claim which includes these structures. The probable allowability of this application was also indicated at the interview.

Claim 1 has been amended for clarification as to pyrrole mimics; this amendment is supported in paragraph 38 in combination, for example, with formulas (9)-(20), all of which contain pyrrole mimics. This is further explained below.

In addition, as agreed at the interview, claim 1 has been clarified to denote the cation-containing substituent as R^1. Further clarification is made by the amendment to the specification, consistent with the structures shown therein that it is the substituent at the bridging group that is designated R^1.

Restriction / Election

Applicant further confirms the election to prosecute the invention of claims 1-5 with the election of species directed to the compound of formula (1) in claim 2. Applicant further

understands that should a generic claim be found allowable, additional species will be examined. As agreed at the interview, claims 7 and 8 have now been canceled, but it is believed proper to rejoin claim 6 in view of the indication that claims 1-5 are allowable.

The Rejection Under 35 U.S.C. § 102

Claims 1 and 2 were rejected as anticipated by structures set forth in two articles by Narayanan, *et al.,* which disclose compounds with the nucleus set forth in formula (1). The compounds set forth in formula (1) have the requirement, as recognized by the Office, by virtue of dependence on claim 1, and by virtue of the definition of R^1 in claim 2, as comprising "a substituent that is in cationic form at physiological pH." The Office takes the position that the compounds of Narayanan meet this requirement by virtue of protonation at physiological pH at the ring nitrogens resulting, the Office states, in a resonance structure which would transfer the positive charge of the proton to, for example, a phenyl substituent (one possible embodiment of R^1).

Applicant is grateful that the Examiner has agreed that with the clarification set forth in claim 1, this basis for rejection will be withdrawn. For completeness of the record, applicant restates his original response to this rejection which may provide further comfort to the Office that these claims are indeed allowable.

First, although a secondary document is cited that states that physiological pH is between 6.8 and 7.8, there is no document of record that shows that the compound illustrated by the Office would be protonated at this pH.

Second, the structures shown in the Office action do not reflect protonation at a ring nitrogen. The structures shown are not resonance structures because in resonance structures all the

atoms in the structure occupy the same position. It will be noted that the ring nitrogen in the upper left-hand corner of the molecule is lacking a hydrogen in the structure on the left, but contains a hydrogen in the structure on the right. Perhaps this is just an error in nomenclature and the Office intends to characterize these as tautomers.

Third, even if, at physiological pH, one of the ring nitrogens in a pyrrole residue were protonated, and even if a resonance structure or tautomeric structure were significant, the positive charge would not be localized in a substituent. The claims require substitution by one moiety "which is cationic under physiological conditions." This clearly envisions instances in which the substituent itself is a cation, not where a positive charge is distributed over the entire ring structure, as would be the case, even if significant tautomerization occurred (which is unlikely) or if resonance structures made a significant contribution to the electron distribution, and even if the nucleus shown were significantly protonated at physiological pH.

Therefore, applicant respectfully submits that absent a substituent that is cationic under physiological conditions (and none is shown in Narayanan) these documents do not anticipate claims 1 and 2.

Applicant again expresses his appreciation that the Office now agrees that the compounds of claims 1 and 2 are patentability distinguishable from those of Narayanan.

The Rejection Under 35 U.S.C. § 103

With regard to this rejection, applicant appreciates that agreement was reached at the interview that the rejection would be withdrawn. Again, simply for completeness of the record, applicant submits arguments with regard to the rejection as originally proposed.

Claim 5 was rejected as assertedly obvious over the primary Narayanan documents in combination with Foye. Foye is cited for teaching that porphyrin classes of drugs are injected intravenously into patients, and the Office thus concludes that it would be obvious to include the compounds of the invention in a pharmaceutical composition. There are two problems with this. First, the porphyrin compounds shown in Foye are clearly patentably distinct from those of Narayanan and from the compounds of the present invention including those of claims 1 and 2. The compounds shown in Foye have only four pyrrole rings, whereas those of Narayanan and of the present invention contain at least five pyrrole rings (or pyrrole mimics). There is no teaching in Foye that anything other than a strictly porphyrin compound is used for intravenous injection.

Second, of course, the compounds of the invention are not those of Narayanan as argued above. Therefore, even if it were true that the Narayanan compounds were shown by Foye to be useful medicinally, this teaching would not apply to the compounds of the present claims.

The Rejections Under 35 U.S.C. § 112, Second Paragraph

The rejection of claim 2 has been addressed above by amendment. The rejection of claim 1 is based on the premise that "the pyrrole mimics do not contain NH moieties because they contain an X variable and carbons." This is not correct. Perhaps the Office is confusing the structures set forth in claim 2 with those referenced in claim 1. Pyrrole mimics are defined in paragraph 38 of the specification, beginning at the bottom of page 9,

> Pyrrole moiety mimics are defined as a nitrogen coupled to two carbons which are in turn coupled to the remainder of the porphyrin nucleus; thus "pyrrole mimic" is a pyrrole moiety which lacks the ring structure that provides the relevant linkage to the remainder of the porphyrin.

Thus, a pyrrole mimic would simply look like the open chain linkage in, for example, formulas (9)-(20) in claim 2. In these cases, the nitrogen is shown without an H, and claim 1 has been amended to reflect this. It is therefore believed that claim 1 is not indefinite. The agreement reached on this point at the interview is again acknowledged.

Claims 3 and 4

Applicant greatly appreciates the indication that claims 3 and 4 are allowable, and agrees with the analysis set forth by the Examiner.

Rejoinder

As the generic claims have been found allowable, applicant respectfully requests rejoinder of withdrawn claim 6 which depends from claim 1.

Conclusion

In summary, claims 1 and 2 have been amended to correct informalities; these amendments obviate the rejections under 35 U.S.C. § 112. With the clarifying amendment to claim 1, it has been shown that the compounds described by Narayanan fail to meet the claim limitation that the expanded porphyrin be substituted with "at least one moiety (R^1) which is cationic under physiological conditions" an absolute requirement of the claims. In view of this, applicant appreciates the rejections of claims 1, 2 and 5 over the art are withdrawn. Applicant respectfully requests that claims 1-6 be passed to issue.

Examiners Wilson and Fedowitz are again thanked for their courtesy to the undersigned.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket No. 532232001000.

Respectfully submitted,

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